

ABSTRACT

There is disclosed a piezoelectric thin film having less non-uniform portion and holding
5 satisfactory piezoelectric characteristics, a method of manufacturing the film, a piezoelectric element using the piezoelectric thin film, and an ink jet system recording head using the piezoelectric element. In the piezoelectric thin film of perovskite crystals
10 formed on a substrate by a sol-gel process and represented by a general formula $\text{Pb}_{(1-x)}\text{La}_x(\text{Zr}_y\text{Ti}_{1-y})\text{O}_3$ (where $0 \leq x < 1$, $0.05 \leq y \leq 1$), a film thickness of the thin film is 1000 nm or more and 4000 nm or less, and a difference between a maximum value and a
15 minimum value of y in an arbitrary portion of the thin film is 0.05 or less.